

## **WATER & SEWER ENTERPRISE FUNDS**

Water and sewer capital projects account for the second largest portion of the capital improvement plan after the GO Transportation capital program. These projects will be funded from water/sewer fund revenues. The FY 2011-2020 budget reflects recommendations from the Red Oak rate study completed in 2010.

The combined Water/Sewer Fund (2360) reflects continued funding in FY 2011 for the implementation of a new utility billing system and the expansion and enhancement of the city's water reclamation facilities, the West Area Water Reclamation Facility and the Arrowhead Water Reclamation Facility.

FY 2011 for the Water Fund (2400) reflects continued and new funding for the Zone 4 Groundwater Treatment Plant that will provide capacity of 10 million gallons per day (MGD) for the drinking water system. FY 2011 also includes funding for citywide water line replacement and extensions where needed, Cholla Water Treatment Plant process improvements and a water line crossing at the New River.

In FY 2011, the Sewer Fund (2420) projects include carryover and new funding for sewer line replacement and extension, as well as new funding for the continued expansion of the 91<sup>st</sup> Avenue Wastewater Treatment Plan co-owned by the City of Phoenix and other valley cities. This project will expand the facility's treatment capacity from 153 MGD to 250 MGD.



**Project Name:** Oasis Water Campus  
**Funding Source:** Revenue Bond  
**Fund #:** 2400  
**Project #:** 61003

## FY 2011 - 2020 Capital Improvement Program

### Capital Projects By Fund and Project Number

#### 2360 - Water & Sewer

**Category: Revenue**

			<u>FY 2011:</u>	<u>FY 2012:</u>	<u>FY 2013:</u>	<u>FY 2014:</u>	<u>FY 2015:</u>	<u>FYs 16-20:</u>
<b>Capital Project Expenses</b>	<u>Carrvover</u>	<u>New Funding</u>						
<b>Existing Assets</b>								
<i>Improvement of Existing Assets</i>								
60002 Addtl. Recharge Capacity	127,721	0	0	0	0	0	0	0
60007 Arrwhd Wtr Reclam Fac Imps	913,908	3,750,001	4,000,000	2,598,975	2,664,566	0	0	0
<i>Replacement of Existing Assets</i>								
60000 Utility Billing System Repl.	835,947	0	0	0	0	0	0	0
60001 Water Quality Instruments	0	0	0	0	0	57,189	685,000	
60009 *West Area WRF Service Wtr Sys.	0	100,001	0	0	0	0	0	0
T2250 WAWRF Clarifier Replacement	0	0	0	0	277,770	0	0	0
T2270 WAWRF Fine Screen Replacement	0	0	0	0	752,950	0	0	0
T2280 WAWRF Odor Control Replacement	0	0	0	0	1,081,700	0	0	0
T2282 *Lab Data Management System	0	0	0	0	0	300,000	0	0
T2283 *Computerized Maint. Mgmt Sys.	0	0	0	0	0	0	2,000,000	
T2284 *Radio Phase IV Equipment	0	0	0	0	800,000	0	800,000	
<i>Sub-Total - Existing Assets</i>	<i>1,877,576</i>	<i>3,850,002</i>	<i>4,000,000</i>	<i>2,598,975</i>	<i>5,576,986</i>	<i>357,189</i>	<i>3,485,000</i>	
<b>New Assets</b>								
60008 WAWRF Phase IV	116,791	0	0	2,268,119	13,435,005	26,682,506	16,995,560	
<i>Sub-Total - New Assets</i>	<i>116,791</i>	<i>0</i>	<i>0</i>	<i>2,268,119</i>	<i>13,435,005</i>	<i>26,682,506</i>	<i>16,995,560</i>	
<b>Total Project Expenses:</b>	<b>\$1,994,367</b>	<b>\$3,850,002</b>	<b>\$4,000,000</b>	<b>\$4,867,094</b>	<b>\$19,011,991</b>	<b>\$27,039,695</b>	<b>\$20,480,560</b>	
<b>Total FY 2011 Funding:</b>		<b>\$5,844,369</b>						

\* New Project

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2360 - Water & Sewer

**Category: Revenue**

**Project:** 60002 - Addtl. Recharge Capacity (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Provide contingency recharge capacity for the Arrowhead Ranch Water Reclamation Facility in order to comply with Capacity, Management, Operation, and Maintenance (CMOM). Prevent possible sanitary sewer overflows due to loss of discharge pathway to Arrowhead Ranch Water Reclamation Facility.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
FY 2011 Carryover	\$127,721	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$127,721</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed at this time.

**Project:** 60007 - Arrwhd Wtr Reclam Fac Imps (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

To ensure reliable and safe treatment of wastewater in the Arrowhead area and meet upcoming regulatory requirements, the treatment plant processes will be upgraded. This project will replace the aging sand filters and ultra violet light disinfection system at the Arrowhead Ranch Water Reclamation Facility. This project will also include civil, mechanical, and electrical improvements. These improvements will enable the plant to consistently meet the A+ effluent water quality requirements and help assure personnel safety by meeting Occupational Safety and Health Administration (OSHA) standards.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$600,400	\$60,000	\$600,118	\$0	\$0	\$0
Construction	\$2,551,969	\$3,288,800	\$1,586,451	\$2,235,804	\$0	\$0
Finance Charges	\$49,794	\$61,318	\$34,524	\$35,314	\$0	\$0
Engineering Charges	\$33,187	\$35,255	\$23,020	\$23,538	\$0	\$0
Arts	\$25,520	\$32,888	\$15,865	\$22,358	\$0	\$0
Contingency	\$489,131	\$521,739	\$338,997	\$347,552	\$0	\$0
<b>Sub-Total New Funding</b>	<b>\$3,750,001</b>	<b>\$4,000,000</b>	<b>\$2,598,975</b>	<b>\$2,664,566</b>	<b>\$0</b>	<b>\$0</b>
FY 2011 Carryover	\$913,908	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$4,663,909</b>	<b>\$4,000,000</b>	<b>\$2,598,975</b>	<b>\$2,664,566</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 60000 - Utility Billing System Repl. (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Replacement and implementation of a new utility billing system. The cost includes software, professional services and fees, and annual service and maintenance. The new Utility billing system was implemented in Fiscal Year 2010. Remaining funding of project is for final payment to outside vendors.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
FY 2011 Carryover	\$835,947	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$835,947</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2360 - Water & Sewer

**Category: Revenue**

**Project:** 60001 - Water Quality Instruments (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:** Funding a replacement program for the major analytical instrumentation at the City's Water Quality Laboratory. Highly sensitive and precise analytical instrumentation is required for the regulatory analysis of the city's water.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Equipment	\$0	\$0	\$0	\$0	\$57,189	\$685,000
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$57,189</b>	<b>\$685,000</b>

**Operating Description:** Replacement of water quality testing instruments with more sensitive detectors results in additional ongoing maintenance costs. Because of the initial warranties on each instrument, these operating impacts are expected to begin the year following instrument replacement.

Operating Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$0	\$0	\$0	\$153,868
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$153,868</b>

**Project:** 60009\* - West Area WRF Service Wtr Sys. (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:** This project will include replacement of the existing 2 in. galvanized service water lines at the West Area Water Reclamation Facility. Numerous areas of the pipeline system had leaks indicating severe pipeline corrosion.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$75,893	\$0	\$0	\$0	\$0	\$0
Finance Charges	\$1,198	\$0	\$0	\$0	\$0	\$0
Engineering Charges	\$9,107	\$0	\$0	\$0	\$0	\$0
Arts	\$759	\$0	\$0	\$0	\$0	\$0
Contingency	\$13,044	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$100,001</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:** No additional O and M is needed.

**Project:** T2250 - WAWRF Clarifier Replacement (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:** This request is to repair and replace the clarifier mechanical drive units and associated equipment at the West Area Water Reclamation Facility in three of the six clarifiers. These structures are mechanical in nature with equipment that includes heavy drive motors, pulleys, chains, bearings and scrapers, all of which will wear out over time.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$30,000	\$0	\$0
Construction	\$0	\$0	\$0	\$200,000	\$0	\$0
Engineering Charges	\$0	\$0	\$0	\$11,270	\$0	\$0
Arts	\$0	\$0	\$0	\$2,000	\$0	\$0
Contingency	\$0	\$0	\$0	\$34,500	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$277,770</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:** No additional O and M cost as new equipment will replace aging existing equipment.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2360 - Water & Sewer

**Category: Revenue**

**Project:** T2270 - WAWRF Fine Screen Replacement (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The West Area Water Reclamation Facility fine screens are mechanical devices that remove solid materials from the influent flows. These devices are subject to wear and tear and need to be replaced approximately every 15-20 years.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$50,000	\$0	\$0
Construction	\$0	\$0	\$0	\$580,000	\$0	\$0
Engineering Charges	\$0	\$0	\$0	\$29,400	\$0	\$0
Arts	\$0	\$0	\$0	\$5,800	\$0	\$0
Contingency	\$0	\$0	\$0	\$87,750	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$752,950</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M cost as new equipment will replace aging existing equipment.

**Project:** T2280 - WAWRF Odor Control Replacement (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The West Area Water Reclamation Facility Odor Control System is required to meet air quality regulatory standards and prevent odor complaints from nearby property owners. The odor control system will require replacement due to ordinary operating conditions.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$100,000	\$0	\$0
Construction	\$0	\$0	\$0	\$800,000	\$0	\$0
Engineering Charges	\$0	\$0	\$0	\$38,700	\$0	\$0
Arts	\$0	\$0	\$0	\$8,000	\$0	\$0
Contingency	\$0	\$0	\$0	\$135,000	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,081,700</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M cost as new equipment will replace aging existing equipment.

**Project:** T2282\* - Lab Data Management System (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

Purchase of an information management system for Water Quality Laboratory data. Funding for this project transferred from Water Quality Lab Instrumentation project 2360-60001.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
IT/Phone/Security	\$0	\$0	\$0	\$0	\$300,000	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is expected since this is the replacement of an existing system.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2360 - Water & Sewer

**Category: Revenue**

**Project:** T2283\* - Computerized Maint. Mgmt Sys. (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

The City of Glendale Utilities Department utilizes Computerized Maintenance Management System (CMMS), to reduce administrative cost associated with the operation and maintenance of the city's water and wastewater treatment, distribution and collection systems. The CMMS software is dependent on both computer hardware and its operating system. After seven years, this computer hardware and operating system are not expected to support the current version of CMMS.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$0	\$0	\$0	\$0	\$0	\$1,637,913
Finance Charges	\$0	\$0	\$0	\$0	\$0	\$25,873
Engineering Charges	\$0	\$0	\$0	\$0	\$0	\$58,965
Arts	\$0	\$0	\$0	\$0	\$0	\$16,379
Contingency	\$0	\$0	\$0	\$0	\$0	\$260,870
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,000,000</b>

**Operating Description:**

No additional O and M is needed.

**Project:** T2284\* - Radio Phase IV Equipment (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This project includes the replacement of the existing microwave radio equipment. The radios are used for wide area networking of the Supervisory Control and Data Acquisition (SCADA) system. The microwave radio equipment installed under the Radio Phase III project has a supportable and operational life span of approximately five years.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$0	\$0	\$0	\$654,900	\$0	\$654,900
Finance Charges	\$0	\$0	\$0	\$10,203	\$0	\$10,203
Engineering Charges	\$0	\$0	\$0	\$24,000	\$0	\$24,000
Arts	\$0	\$0	\$0	\$6,549	\$0	\$6,549
Contingency	\$0	\$0	\$0	\$104,348	\$0	\$104,348
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$800,000</b>	<b>\$0</b>	<b>\$800,000</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2360 - Water & Sewer

**Category: Revenue**

**Project:** 60008 - WAWRF Phase IV (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

This project will include design and construction of treatment system improvements and expansion at the West Area Water Reclamation Facility (WAWRF) to treat increasing wastewater flows from the developing areas along the Loop 101 alignment and other projected area growth. The plant improvements and expansion have been identified in the West Area Water Reclamation Facility Phase V Master Plan conducted by the Damon S. Williams Associates(DSWA) team in 2009.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$1,890,000	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$11,380,000	\$22,540,000	\$14,350,000
Finance Charges	\$0	\$0	\$30,000	\$145,000	\$350,000	\$230,000
IT/Phone/Security	\$0	\$0	\$45,000	\$0	\$0	\$0
Engineering Charges	\$0	\$0	\$7,277	\$43,813	\$86,779	\$55,248
Arts	\$0	\$0	\$0	\$113,800	\$225,400	\$143,500
Contingency	\$0	\$0	\$295,842	\$1,752,392	\$3,480,327	\$2,216,812
<b>Sub-Total New Funding</b>	\$0	\$0	\$2,268,119	\$13,435,005	\$26,682,506	\$16,995,560
<b>FY 2011 Carryover</b>	\$116,791	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$116,791</b>	<b>\$0</b>	<b>\$2,268,119</b>	<b>\$13,435,005</b>	<b>\$26,682,506</b>	<b>\$16,995,560</b>

**Operating Description:**

Expanded facility will require two new plant operators and one new plant electrician starting in FY 2016 at \$68,000 including benefits per year. Other treatment expenses prorated with existing facility expenses. Plant capacity will increase resulting in increases in (1) supplies (chemicals) \$200,000; (2) utilities of \$300,000; (3) equipment maintenance \$66,000. No new telephones, PC's or vehicles will be required.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Staffing	\$0	\$0	\$0	\$0	\$0	\$840,478
Supplies/Contr	\$0	\$0	\$0	\$0	\$0	\$824,000
Utilities	\$0	\$0	\$0	\$0	\$0	\$1,236,000
Equip. Maint.	\$0	\$0	\$0	\$0	\$0	\$271,921
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,172,399</b>

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011 - 2020 Capital Improvement Program

### Capital Projects By Fund and Project Number

#### 2400 - Water

**Category: Revenue**

	<u>FY 2011:</u>		<u>FY 2012:</u>	<u>FY 2013:</u>	<u>FY 2014:</u>	<u>FY 2015:</u>	<u>FYs 16-20:</u>
<b>Capital Project Expenses</b>	<u>Carrvover</u>	<u>New Funding</u>					
<b>Existing Assets</b>							
<i>Improvement of Existing Assets</i>							
61023 Water System Security	275,317	0	0	0	2,519,715	0	0
61024 Cholla Water Plant Process Imp	0	900,000	0	0	0	0	0
61036 Zn4 Groundwater Trtment Plant	9,316,690	19,975,575	1,002,539	7,505,990	0	0	10,000,915
61040 Loop 101 Wells & Piping	0	0	0	1,927,380	0	0	9,679,120
61041 Additional Recharge Capacity	0	100,000	0	3,500,000	3,500,000	3,350,000	1,000,000
T3540 WTPs Chlorine Gas Elimination	0	0	0	0	3,493,499	4,244,851	0
T3552 Additional Water Supply	0	0	0	0	6,597,500	3,581,123	49,988,750
<i>Replacement of Existing Assets</i>							
61001 Fire Hydrant Replacement	0	296,074	0	0	0	1,508,301	2,457,972
61012 Irrigation	0	0	0	0	0	227,288	720,252
61013 Line Replacement & Extension	167,000	1,498,571	3,147,887	3,294,721	3,448,618	2,168,090	22,332,808
61015 Outer Loop Effluent Line	0	0	0	0	69,000	1,610,000	2,603,422
61043 Pyramid Pk WTP Train #1 Equip	0	0	791,670	4,917,950	0	0	0
T3550 Hillcrest Ranch Booster Rehab	0	0	0	0	552,775	0	0
<b>Sub-Total - Existing Assets</b>	<b>9,759,007</b>	<b>22,770,220</b>	<b>4,942,096</b>	<b>21,146,041</b>	<b>20,181,107</b>	<b>16,689,653</b>	<b>98,783,239</b>
<b>New Assets</b>							
61003 Oasis Water Campus	305,215	0	0	0	0	0	0
61009 Drinking Water Well Head Trmt	0	0	0	0	887,225	887,225	0
61019 Storage and Recovery Well	0	0	0	0	745,453	1,770,000	2,235,475
61020 West Area Reuse Pipelines	20,000	0	0	0	0	836,986	1,325,224
61021 N River/Agua Fria Storage Proj	1,257,030	0	0	0	0	0	0
61027 Water Line Extension	0	1,518,983	1,518,983	1,518,983	0	500,421	1,569,183
61029 Regional GAC Plant	0	0	0	0	0	1,042,000	1,800,000
61038 Loop 101 Water Treatment	0	828,000	792,000	756,000	0	1,999,527	33,014,585
61044 *New River Waterline Crossing	0	1,379,000	0	0	0	0	0
T3480 95th A Wtr Trn Ln Orgewd to G	0	0	1,462,100	0	0	0	0
T3510 Orngewood Ave Wtr Trans Mn	0	0	339,794	0	827,418	1,037,007	1,103,945
T3554 Zone 3 Transmission Pipelines	0	0	0	0	100,000	0	0
T3555 *Fiber Optic Cable - Reservoir	0	0	0	0	0	0	225,000
<b>Sub-Total - New Assets</b>	<b>1,582,245</b>	<b>3,725,983</b>	<b>4,112,877</b>	<b>2,274,983</b>	<b>2,560,096</b>	<b>8,073,166</b>	<b>41,273,412</b>
<b>Total Project Expenses:</b>	<b>\$11,341,252</b>	<b>\$26,496,203</b>	<b>\$9,054,973</b>	<b>\$23,421,024</b>	<b>\$22,741,203</b>	<b>\$24,762,819</b>	<b>\$140,056,651</b>
<b>Total FY 2011 Funding:</b>		<b>\$37,837,455</b>					

\* New Project

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61023 - Water System Security (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:** Installation of additional or new equipment to provide greater security to the city's water source supply, treatment plants and distribution system.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$117,000	\$0	\$0
Construction	\$0	\$0	\$0	\$2,065,000	\$0	\$0
Finance Charges	\$0	\$0	\$0	\$33,000	\$0	\$0
Engineering Charges	\$0	\$0	\$0	\$55,000	\$0	\$0
Arts	\$0	\$0	\$0	\$20,650	\$0	\$0
Contingency	\$0	\$0	\$0	\$229,065	\$0	\$0
<b>Sub-Total New Funding</b>	\$0	\$0	\$0	\$2,519,715	\$0	\$0
<b>FY 2011 Carryover</b>	\$275,317	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$275,317</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,519,715</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:** No additional O and M is needed at this time.

**Project:** 61024 - Cholla Water Plant Process Imp (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:** This project will include improvements at Cholla Water Treatment Plant to meet the regulatory requirements. The work to be performed during the current 10-year CIP will include installation of new variable frequency drive system, odor control, soil stabilization, solids handling facility repair and improvements, and reservoir lining rehabilitation or replacement.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$700,000	\$0	\$0	\$0	\$0	\$0
Finance Charges	\$12,000	\$0	\$0	\$0	\$0	\$0
Engineering Charges	\$39,600	\$0	\$0	\$0	\$0	\$0
Arts	\$7,000	\$0	\$0	\$0	\$0	\$0
Contingency	\$141,400	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$900,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:** No additional O and M is needed at this time.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61036 - Zn4 Groundwater Trtment Plant (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

An expansion of the Zone 4 Water Treatment Plant intended to treat 10 million gallons per day (MGD) of groundwater to remove nitrates and other contaminants. This facility will provide needed drinking water when surface water plants are off-line during canal dry-ups.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$1,400,000	\$0	\$1,100,000	\$0	\$0	\$1,500,000
Construction	\$15,500,000	\$850,000	\$5,250,000	\$0	\$0	\$6,980,000
Finance Charges	\$250,000	\$10,000	\$100,000	\$0	\$0	\$114,000
Engineering Charges	\$65,065	\$3,273	\$24,448	\$0	\$0	\$32,648
Arts	\$155,000	\$8,500	\$52,500	\$0	\$0	\$69,800
Contingency	\$2,605,510	\$130,766	\$979,042	\$0	\$0	\$1,304,467
<b>Sub-Total New Funding</b>	<b>\$19,975,575</b>	<b>\$1,002,539</b>	<b>\$7,505,990</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,000,915</b>
<b>FY 2011 Carryover</b>	<b>\$9,316,690</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL</b>	<b>\$29,292,265</b>	<b>\$1,002,539</b>	<b>\$7,505,990</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,000,915</b>

**Operating Description:**

This is an expansion of the Zone 4 Water Treatment Plant to give it the capability to treat groundwater therefore only new costs will be for staff, chemicals and utilities. FTE = Three plant operators @ \$71,500 per year. Chemical, utilities, and maintenance cost are based on actual cost during a pilot study to treat groundwater. A supplemental will be submitted in the future for the additional O and M costs.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Staffing	\$0	\$214,500	\$220,935	\$227,563	\$234,390	\$1,281,740
Supplies/Contr	\$0	\$360,600	\$371,418	\$382,561	\$394,037	\$2,154,758
Utilities	\$0	\$54,636	\$56,275	\$57,963	\$59,702	\$326,476
Equip. Maint.	\$0	\$50,000	\$51,500	\$0	\$0	\$290,069
Insurance	\$0	\$6,409	\$6,601	\$6,799	\$7,003	\$38,297
<b>TOTAL</b>	<b>\$0</b>	<b>\$686,145</b>	<b>\$706,729</b>	<b>\$674,886</b>	<b>\$695,132</b>	<b>\$4,091,340</b>

**Project:** 61040 - Loop 101 Wells & Piping (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Rehabilitate existing wells in Zone 4 to supply raw water to the Loop 101 Ground Water Treatment Plant (GWTP). These improvements are needed in order to meet the growing potable water demand in this area of the city, and also to meet water quality regulations. These improvements are identified in the revised Utilities Water Master Plan completed by Black and Veatch.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$140,000	\$0	\$0	\$960,000
Construction	\$0	\$0	\$1,500,000	\$0	\$0	\$7,200,000
Finance Charges	\$0	\$0	\$22,900	\$0	\$0	\$125,100
Engineering Charges	\$0	\$0	\$15,480	\$0	\$0	\$77,020
Arts	\$0	\$0	\$15,000	\$0	\$0	\$72,000
Contingency	\$0	\$0	\$234,000	\$0	\$0	\$1,245,000
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,927,380</b>	<b>\$0</b>	<b>\$0</b>	<b>\$9,679,120</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61041 - Additional Recharge Capacity (I)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

To purchase or develop additional recharge capacity/options for the underground storage of the City's reclaimed water and surface water supplies. Additional recharge capacity/options are needed to ensure the City is able to store projected increases in reclaimed water produced at the City's West Area Water Reclamation Facility; and to efficiently manage the City's available surface water supplies. This project replaces project 2400-T3556.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Miscellaneous/Other	\$100,000	\$0	\$3,500,000	\$3,500,000	\$3,350,000	\$1,000,000
<b>TOTAL</b>	<b>\$100,000</b>	<b>\$0</b>	<b>\$3,500,000</b>	<b>\$3,500,000</b>	<b>\$3,350,000</b>	<b>\$1,000,000</b>

**Operating Description:**

Additional operating and maintenance cost projections for purchased additional capacity. Costs based upon operation and maintenance contract services for existing facilities.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$58,417	\$60,170	\$61,975	\$338,903
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$58,417</b>	<b>\$60,170</b>	<b>\$61,975</b>	<b>\$338,903</b>

**Project:** T3540 - WTPs Chlorine Gas Elimination (I)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

This project includes the design and construction for the removal of the on-site storage and use of chlorine gas for disinfection of the drinking water. The chlorine gas will be replaced with on-site generation of sodium hypochlorite as the disinfection chemical for two water treatment plants.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$730,000	\$0	\$0
Construction	\$0	\$0	\$0	\$2,200,000	\$3,550,000	\$0
Finance Charges	\$0	\$0	\$0	\$44,000	\$55,000	\$0
Engineering Charges	\$0	\$0	\$0	\$41,825	\$50,675	\$0
Arts	\$0	\$0	\$0	\$22,000	\$35,500	\$0
Contingency	\$0	\$0	\$0	\$455,674	\$553,676	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,493,499</b>	<b>\$4,244,851</b>	<b>\$0</b>

**Operating Description:**

Additional annual cost for supplies and electricity are \$20,000 and \$15,000 respectively. Costs are based on engineering studies. A supplemental will be submitted in the future.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$0	\$15,000	\$15,450	\$84,483
Utilities	\$0	\$0	\$0	\$20,000	\$20,600	\$112,652
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$35,000</b>	<b>\$36,050</b>	<b>\$197,135</b>

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** T3552 - Additional Water Supply (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:** Acquisition and development of renewable water supplies to meet increasing demand for water, maintain city's designation of assured water supply, and to minimize drought impacts on Glendale water system customers.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Finance Charges	\$0	\$0	\$0	\$97,500	\$52,923	\$738,750
Miscellaneous/Other	\$0	\$0	\$0	\$6,500,000	\$3,528,200	\$49,250,000
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,597,500</b>	<b>\$3,581,123</b>	<b>\$49,988,750</b>

**Operating Description:** O and M is based upon projected delivery and treatment costs relating to the additional water supply.

Operating Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$0	\$380,000	\$0	\$2,140,336
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$380,000</b>	<b>\$0</b>	<b>\$2,140,336</b>

**Project:** 61001 - Fire Hydrant Replacement (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:** This project consists of funding a replacement program for approximately 800 existing fire hydrants. To date, 285 fire hydrants have been replaced. The replacement of existing fire hydrants is primarily driven by the inability to obtain parts as the fire hydrant becomes inoperable. The new fire hydrant installations are based on an internal study that identified areas that currently do not meet city and industry spacing guidelines.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$265,000	\$0	\$0	\$0	\$1,350,000	\$2,200,000
Engineering Charges	\$6,493	\$0	\$0	\$0	\$33,075	\$53,900
Arts	\$2,650	\$0	\$0	\$0	\$13,500	\$22,000
Contingency	\$21,931	\$0	\$0	\$0	\$111,726	\$182,072
<b>TOTAL</b>	<b>\$296,074</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,508,301</b>	<b>\$2,457,972</b>

**Operating Description:** No additional O and M is needed at this time.

**Project:** 61012 - Irrigation (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:** Irrigation pipelines and irrigation structures, in the downtown flood irrigation system will be rehabilitated or replaced to stop existing irrigation leaks.

Capital Costs:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$16,000	\$0
Construction	\$0	\$0	\$0	\$0	\$200,000	\$684,000
Engineering Charges	\$0	\$0	\$0	\$0	\$9,288	\$29,412
Arts	\$0	\$0	\$0	\$0	\$2,000	\$6,840
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$227,288</b>	<b>\$720,252</b>

**Operating Description:** No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61013 - Line Replacement & Extension (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The Water Distribution System Evaluation Study conducted by CH2M-Hill identified the segments of water lines to be rehabilitated and/or replaced. In addition, the city Utilities Department has also identified the water lines that are in need of rehabilitation and/or replacement based on historic repair and maintenance records. This project will include water line rehabilitation and/or replacement to ensure effective water distribution system operations and regulatory compliance.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$470,000	\$0	\$0	\$0	\$650,000	\$2,000,000
Construction	\$800,000	\$2,660,000	\$2,780,000	\$2,910,000	\$1,190,000	\$16,890,000
Finance Charges	\$20,000	\$40,000	\$46,000	\$48,000	\$26,000	\$285,000
Engineering Charges	\$5,105	\$10,693	\$11,175	\$11,698	\$7,396	\$75,933
Arts	\$8,000	\$26,600	\$27,800	\$29,100	\$11,900	\$168,900
Contingency	\$195,466	\$410,594	\$429,746	\$449,820	\$282,794	\$2,912,975
<b>Sub-Total New Funding</b>	<b>\$1,498,571</b>	<b>\$3,147,887</b>	<b>\$3,294,721</b>	<b>\$3,448,618</b>	<b>\$2,168,090</b>	<b>\$22,332,808</b>
<b>FY 2011 Carryover</b>	<b>\$167,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL</b>	<b>\$1,665,571</b>	<b>\$3,147,887</b>	<b>\$3,294,721</b>	<b>\$3,448,618</b>	<b>\$2,168,090</b>	<b>\$22,332,808</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 61015 - Outer Loop Effluent Line (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The Arrowhead Ranch Water Reclamation Facility (ARWRF) effluent transmission line have been in service since the late 1980s. This effluent transmission line is essential for conveying and disposal of the effluent from the ARWRF. This project will include effluent line inspection, evaluation and rehabilitation, if needed, to ensure effluent transmission system integrity and reliability.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$58,910	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$1,340,000	\$2,170,000
Finance Charges	\$0	\$0	\$0	\$0	\$21,810	\$32,000
Engineering Charges	\$0	\$0	\$0	\$1,090	\$24,790	\$40,145
Arts	\$0	\$0	\$0	\$0	\$13,400	\$21,700
Contingency	\$0	\$0	\$0	\$9,000	\$210,000	\$339,577
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$69,000</b>	<b>\$1,610,000</b>	<b>\$2,603,422</b>

**Operating Description:**

No additional O and M is needed at this time.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

#### Category: Revenue

**Project:** 61043 - Pyramid Pk WTP Train #1 Equip (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This project will include equipment replacement and rehabilitation at the Pyramid Peak Water Treatment Plant related to Train No. 1 and other equipment in the original plant. The original equipment will be approximately 23 years old. Based on the existing IGA between Glendale and Peoria, this cost will be split between the two cities - with Peoria being responsible for approximately 23% of the project costs.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$0	\$660,000	\$4,100,000	\$0	\$0	\$0
Finance Charges	\$0	\$9,900	\$61,500	\$0	\$0	\$0
Engineering Charges	\$0	\$16,170	\$100,450	\$0	\$0	\$0
Arts	\$0	\$6,600	\$41,000	\$0	\$0	\$0
Contingency	\$0	\$99,000	\$615,000	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$791,670</b>	<b>\$4,917,950</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** T3550 - Hillcrest Ranch Booster Rehab (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This drinking water booster station went out of service in 1998 when the drinking water reservoir went online at the Pyramid Peak Water Treatment Plant (PPWTP). To serve as an emergency back-up supply of water pressure for the Zone 3 Water Pressure Zone, the pumps and electrical controls will be replaced or rehabilitated if possible.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$25,000	\$0	\$0
Construction	\$0	\$0	\$0	\$450,000	\$0	\$0
Engineering Charges	\$0	\$0	\$0	\$23,275	\$0	\$0
Arts	\$0	\$0	\$0	\$4,500	\$0	\$0
Contingency	\$0	\$0	\$0	\$50,000	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$552,775</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 61003 - Oasis Water Campus (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

A "Comprehensive Water Facilities Planning and Design" plan has been prepared and the design is complete for the new 10 million gallon per day (MGD) surface water treatment plant that will serve mainly western Glendale with fresh drinking water.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
FY 2011 Carryover	\$305,215	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$305,215</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61009 - Drinking Water Well Head Trmt (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This project will include design of a new Zone 4 wellhead treatment system to remove nitrates and arsenic from groundwater to meet the federal drinking water standards. This new wellhead treatment system was recommended in the Groundwater Master Plan in 2008 in order to meet the future growth demand in the west areas of the city.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$750,000	\$750,000	\$0
Engineering Charges	\$0	\$0	\$0	\$21,500	\$21,500	\$0
Contingency	\$0	\$0	\$0	\$115,725	\$115,725	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$887,225</b>	<b>\$887,225</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 61019 - Storage and Recovery Well (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

The project is a long term project to install one or more groundwater recharge and recovery wells for the purpose of recharging effluent and/or "recovering" recharge credits by pumping groundwater. The recovered groundwater will be pumped to the Arrowhead amenities customers.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$626,779	\$300,000	\$300,000
Construction	\$0	\$0	\$0	\$0	\$1,177,200	\$1,564,800
Finance Charges	\$0	\$0	\$0	\$9,846	\$22,830	\$28,944
Engineering Charges	\$0	\$0	\$0	\$11,595	\$27,328	\$34,499
Arts	\$0	\$0	\$0	\$0	\$11,772	\$15,648
Contingency	\$0	\$0	\$0	\$97,233	\$230,870	\$291,584
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$745,453</b>	<b>\$1,770,000</b>	<b>\$2,235,475</b>

**Operating Description:**

O and M is for three years of chemicals and equipment maintenance based on pilot studies.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$0	\$0	\$0	\$144,200
Utilities	\$0	\$0	\$0	\$0	\$0	\$103,000
Equip. Maint.	\$0	\$0	\$0	\$0	\$0	\$46,350
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$293,550</b>

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61020 - West Area Reuse Pipelines (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Malcolm Pirnie prepared a water reuse master plan for the reuse of effluent from the West Area Water Reclamation Facility. This plan was completed in May 2003. Reuse pipelines projects will be developed and scheduled as required per the reuse master plan. Extensions of the effluent line to serve new lakes are also included.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$540,000	\$0
Construction	\$0	\$0	\$0	\$0	\$261,000	\$1,260,000
Finance Charges	\$0	\$0	\$0	\$0	\$12,000	\$19,000
Engineering Charges	\$0	\$0	\$0	\$0	\$21,376	\$33,624
Arts	\$0	\$0	\$0	\$0	\$2,610	\$12,600
<b>Sub-Total New Funding</b>	\$0	\$0	\$0	\$0	\$836,986	\$1,325,224
<b>FY 2011 Carryover</b>	\$20,000	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$20,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$836,986</b>	<b>\$1,325,224</b>

**Operating Description:**

Pipeline maintenance will be required on 3.5 miles of existing pipeline, and following the new construction warranty period, annual maintenance will begin on the new pipelines. Annual maintenance includes instrument and control work on the telemetry, mechanical work on the valves and transmission piping, and repair of transmission system in the event of deterioration or breakage. One new WRF Plant Operator will be required to work off-site at lake intake structures, recharge outfall structures and water delivery locations. Cost of operator with benefits is \$75,080 year for three years.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Staffing	\$0	\$0	\$0	\$0	\$0	\$231,999
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$231,999</b>

**Project:** 61021 - N River/Agua Fria Storage Proj (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

To acquire a 20% ownership in the New River/Agua Fria Underground Storage Facility administered by the Salt River Project. The city has physically expanded the West Area Water Reclamation Facility and needs additional recharge capacity to accommodate (store) the effluent processed at the expanded facility. The new regional underground storage facility is located in the vicinity of 107th Avenue and Bethany Home Road. The stored effluent will be used to meet Glendale's long-term water demands and maintain compliance with the state groundwater code.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
<b>FY 2011 Carryover</b>	\$1,257,030	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$1,257,030</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed at this time.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61027 - Water Line Extension (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

Installation of water lines to extend the city's water transmission and distribution systems.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$150,000	\$150,000	\$150,000	\$0	\$100,000	\$0
Construction	\$1,120,000	\$1,120,000	\$1,120,000	\$0	\$317,000	\$1,300,000
Finance Charges	\$18,400	\$18,400	\$18,400	\$0	\$8,000	\$29,750
Engineering Charges	\$21,255	\$21,255	\$21,255	\$0	\$6,979	\$21,757
Arts	\$11,200	\$11,200	\$11,200	\$0	\$3,170	\$13,000
Contingency	\$198,128	\$198,128	\$198,128	\$0	\$65,272	\$204,676
<b>TOTAL</b>	<b>\$1,518,983</b>	<b>\$1,518,983</b>	<b>\$1,518,983</b>	<b>\$0</b>	<b>\$500,421</b>	<b>\$1,569,183</b>

**Operating Description:**

No additional O and M is needed at this time.

**Project:** 61029 - Regional GAC Plant (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

This project will include co-ownership of a regional granular activated carbon (GAC) regeneration plant. The City of Glendale ownership will not exceed 5% of the project. The total project cost was estimated to be \$56 million. The GAC has a life expectancy of 6 to 24 months and must be replaced with either new GAC or regenerated GAC. The cost for new GAC is approximately \$1.23 per pound and \$0.76 per pound for regenerated GAC. The GAC regeneration will result in a 30% or greater savings in O and M costs. The project pay-back will be 3-5 years from the O and M savings.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Finance Charges	\$0	\$0	\$0	\$0	\$15,000	\$27,000
Miscellaneous/Other	\$0	\$0	\$0	\$0	\$1,027,000	\$1,773,000
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,042,000</b>	<b>\$1,800,000</b>

**Operating Description:**

There are no direct O and M costs to the City of Glendale related to this project. All O and M costs will be included in the cost of GAC regeneration. Regeneration costs are based on a per pound rate and will include any ongoing project O and M costs.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** 61038 - Loop 101 Water Treatment (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

Design and build a 10 million gallon per day (MGD) groundwater treatment plant and storage reservoir in Zone 4. The treatment plant is needed in order to meet the potable water demand of this growing area of the city. The 11.7 acres of land is located at 99th Avenue and Northern. Land was purchased in FY 2009 with payments in FY 2009 and FY 2010 with the remaining payments to be spread over three fiscal years. A groundwater treatment plant and reservoir booster station will be designed and constructed in FY's 2015 through 2019. This facility is identified in the revised Utilities Water Master Plan.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Land	\$828,000	\$792,000	\$756,000	\$0	\$0	\$0
Design	\$0	\$0	\$0	\$0	\$1,705,000	\$3,000,000
Construction	\$0	\$0	\$0	\$0	\$250,000	\$29,100,000
Finance Charges	\$0	\$0	\$0	\$0	\$34,500	\$500,000
Engineering Charges	\$0	\$0	\$0	\$0	\$7,527	\$123,585
Arts	\$0	\$0	\$0	\$0	\$2,500	\$291,000
<b>TOTAL</b>	<b>\$828,000</b>	<b>\$792,000</b>	<b>\$756,000</b>	<b>\$0</b>	<b>\$1,999,527</b>	<b>\$33,014,585</b>

**Operating Description:**

O and M impact will be determined when project is closer to completion as operations are expected to begin in FY 2020.

**Project:** 61044\* - New River Waterline Crossing (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

In order to meet the new federal disinfection by-product requirements for the city's water distribution system in 2012, a connection between Zone 1 and Zone 4 will be provided. The purpose of the project is to enhance water quality within the distribution system and improve operations flexibility. This project will include installation of a new 16-inch water line crossing the New River to connect the existing 16-inch waterline along Bethany Homes Road with the existing 12-inch waterline at the Airport.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$1,122,180	\$0	\$0	\$0	\$0	\$0
Finance Charges	\$17,728	\$0	\$0	\$0	\$0	\$0
Engineering Charges	\$48,000	\$0	\$0	\$0	\$0	\$0
Arts	\$11,222	\$0	\$0	\$0	\$0	\$0
Contingency	\$179,870	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$1,379,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** T3480 - 95th A Wtr Trn Ln Orgewd to G (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Installation of a new 16 in. diameter water transmission main which will improve water distribution within Water Pressure Zone 4. This new water line will be located within 95th Avenue between Orangewood Avenue to Glendale Avenue. The source water will come from the Oasis Water Campus.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$100,000	\$0	\$0	\$0	\$0
Construction	\$0	\$1,110,000	\$0	\$0	\$0	\$0
Finance Charges	\$0	\$18,000	\$0	\$0	\$0	\$0
Engineering Charges	\$0	\$43,000	\$0	\$0	\$0	\$0
Arts	\$0	\$11,100	\$0	\$0	\$0	\$0
Contingency	\$0	\$180,000	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$1,462,100</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

Preventative maintenance and future regulations Distribution Management Operation and Maintenance(DMOM) are the driving factor for the O and M adjustments. Although the project design is only half of a mile of main it is estimated \$7,000 per year is necessary beginning in FY 2014. A supplemental will be submitted in the future.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$0	\$7,000	\$7,210	\$39,424
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,000</b>	<b>\$7,210</b>	<b>\$39,424</b>

**Project:** T3510 - Orngewood Ave Wtr Trans Mn (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

A new 16 in. water transmission main which will improve water distribution within Water Pressure Zone 4. This new water line will be located within Orangewood Avenue from 99th Avenue west to 105th Avenue. The source water will be the Oasis Water Campus.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$300,000	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$735,000	\$919,000	\$980,000
Finance Charges	\$0	\$9,000	\$0	\$10,000	\$14,775	\$14,000
Engineering Charges	\$0	\$5,624	\$0	\$13,778	\$17,227	\$18,371
Arts	\$0	\$0	\$0	\$7,350	\$9,190	\$9,800
Contingency	\$0	\$25,170	\$0	\$61,290	\$76,815	\$81,774
<b>TOTAL</b>	<b>\$0</b>	<b>\$339,794</b>	<b>\$0</b>	<b>\$827,418</b>	<b>\$1,037,007</b>	<b>\$1,103,945</b>

**Operating Description:**

Due to the complexity of the line, additional maintenance costs are necessary in the out years. In addition to the preventative maintenance costs, future Distribution Management Operation and Maintenance(DMOM) are a driving factor for the increased maintenance costs. Although the project design is for .75 miles of main it is estimated an additional \$10,000 is necessary for maintenance costs beginning in FY 2015.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Equip. Maint.	\$0	\$0	\$0	\$0	\$0	\$51,500
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$51,500</b>

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2400 - Water

**Category: Revenue**

**Project:** T3554 - Zone 3 Transmission Pipelines (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Complete a study report to determine the alignment and site of one or two transmission mains for Water Zone 3. The line is intended to improve the pressure distribution within this service area.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Miscellaneous/Other	\$0	\$0	\$0	\$100,000	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$100,000</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** T3555\* - Fiber Optic Cable - Reservoir (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This project includes the installation of fiber optic cables at Thunderbird Reservoir and Zone 4 Reservoir. A study conducted by city staff indicates that optic cables are the least expensive long term solution for wide area network communications at Thunderbird and Zone 4 Reservoirs. Currently there is a T1 data line that is being leased from Qwest. The new cables will help to monitor the numerous security cameras at the reservoirs and also provide a more reliable access for the Supervisory Control and Data Acquisition (SCADA) system.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$0	\$0	\$0	\$0	\$0	\$179,035
Finance Charges	\$0	\$0	\$0	\$0	\$0	\$2,827
Engineering Charges	\$0	\$0	\$0	\$0	\$0	\$12,000
Arts	\$0	\$0	\$0	\$0	\$0	\$1,790
Contingency	\$0	\$0	\$0	\$0	\$0	\$29,348
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$225,000</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011 - 2020 Capital Improvement Program

### Capital Projects By Fund and Project Number

#### 2420 - Sewer

**Category: Revenue**

	<u>FY 2011:</u>		<u>FY 2012:</u>	<u>FY 2013:</u>	<u>FY 2014:</u>	<u>FY 2015:</u>	<u>FYs 16-20:</u>
<b>Capital Project Expenses</b>	<u>Carrvover</u>	<u>New Funding</u>					
<b>Existing Assets</b>							
<i>Improvement of Existing Assets</i>							
63007 Sewer 99th Ave. W. Water Meter	0	0	0	0	0	595,322	7,112,553
63010 91st Ave. Construction	0	3,045,000	1,522,500	1,522,500	512,000	1,015,000	14,210,000
63014 67th & 83rd Ave SLS Mode	0	0	0	0	0	0	4,856,513
63020 Security Enhance Wastewtr Ops	0	0	0	0	3,002,882	4,004,393	0
63023 City Wide Sewer Odor Control	0	0	0	0	0	769,244	1,112,719
T3613 *GL03 Meter Station Relocation	0	0	0	300,001	2,199,999	0	0
<i>Replacement of Existing Assets</i>							
63003 99th Ave Interceptor Line	0	710,500	710,500	2,030,000	2,030,000	2,030,000	3,755,500
63006 Arrowhead Sewer Lines	0	0	0	0	0	1,719,575	2,035,490
63013 67th Ave. Lift Station	598,436	0	0	0	0	0	0
63016 Sewer Line Replacement	3,862,539	1,897,765	3,315,050	3,315,050	3,435,170	3,435,170	16,580,998
63018 Camelback Swr Rehab	15,619	1,000,000	0	0	0	0	0
63021 Sweetwater & 55th Ave SLS	72,102	499,734	1,500,050	0	0	0	0
<i>Sub-Total - Existing Assets</i>	<i>4,548,696</i>	<i>7,152,999</i>	<i>7,048,100</i>	<i>7,167,551</i>	<i>11,180,051</i>	<i>13,568,704</i>	<i>49,663,773</i>
<b>New Assets</b>							
63000 67th-115th, Northern-C'Back	0	0	0	0	0	0	9,715,500
63008 Sewers for Areas on Septic Sys	0	231,787	241,900	253,937	441,380	441,380	878,180
63015 CMOM Implementation	0	0	0	574,000	0	0	0
63017 Sewer Line Extension	0	302,079	321,276	237,982	404,569	401,284	980,526
T3610 Bethany Hme Rd Interceptor	0	0	0	351,383	1,787,635	1,787,635	0
T3611 Glendale Ave 93rd-99th Ave	0	0	539,585	0	0	0	385,245
T3612 *Influent Pump Sta. (RSPS) Imp.	0	0	0	500,000	4,600,000	0	0
<i>Sub-Total - New Assets</i>	<i>0</i>	<i>533,866</i>	<i>1,102,761</i>	<i>1,917,302</i>	<i>7,233,584</i>	<i>2,630,299</i>	<i>11,959,451</i>
<b>Total Project Expenses:</b>	<b>\$4,548,696</b>	<b>\$7,686,865</b>	<b>\$8,150,861</b>	<b>\$9,084,853</b>	<b>\$18,413,635</b>	<b>\$16,199,003</b>	<b>\$61,623,224</b>
<b>Total FY 2011 Funding:</b>		<b>\$12,235,561</b>					

\* New Project

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63007 - Sewer 99th Ave. W. Water Meter (I)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

In agreement with the multi-city Sub-Regional Operating Group organization, all the SROG cities will construct or refurbish sewage metering stations in their jurisdiction, to assure accurate monitoring and personnel safety while maintaining these metering structures feeding the jointly owned 91st Avenue Waste Water Treatment Plant. The metering stations are located on 99th Avenue south of Camelback Road and south of Northern Avenue.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$200,000	\$0
Construction	\$0	\$0	\$0	\$0	\$300,000	\$5,950,000
Finance Charges	\$0	\$0	\$0	\$0	\$7,500	\$90,000
Engineering Charges	\$0	\$0	\$0	\$0	\$7,171	\$85,329
Arts	\$0	\$0	\$0	\$0	\$3,000	\$59,500
Contingency	\$0	\$0	\$0	\$0	\$77,651	\$927,724
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$595,322</b>	<b>\$7,112,553</b>

**Operating Description:**

O and M includes service and replacement of automatic sampling units, miscellaneous telemetry and flow recording equipment at the metering stations on a periodic basis. No data connectivity or telephones are required.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Utilities	\$0	\$0	\$0	\$0	\$0	\$25,751
Equip. Maint.	\$0	\$0	\$0	\$0	\$0	\$128,753
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$154,504</b>

**Project:** 63010 - 91st Ave. Construction (I)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

This project consists of continuing improvements and expansion of the 91st Avenue Wastewater Treatment Plant co-owned by the City of Phoenix and the Sub-Regional Operating Group (SROG), of which Glendale is a member. It is an ongoing venture to expand the treatment plant from 153 million gallons per day (MGD) to 250 MGD.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Finance Charges	\$45,000	\$22,500	\$22,500	\$12,000	\$15,000	\$210,000
Miscellaneous/Other	\$3,000,000	\$1,500,000	\$1,500,000	\$500,000	\$1,000,000	\$14,000,000
<b>TOTAL</b>	<b>\$3,045,000</b>	<b>\$1,522,500</b>	<b>\$1,522,500</b>	<b>\$512,000</b>	<b>\$1,015,000</b>	<b>\$14,210,000</b>

**Operating Description:**

No additional O and M is needed at this time.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63014 - 67th & 83rd Ave SLS Mode (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This sewage lift station (SLS) located at 67th Avenue and Beardsley Road will need to be rehabilitated and later expanded to assure system reliability, adequate pumping capacity and regulatory compliance. The redesign will include more efficient odor control and larger capacity pumps.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$0	\$700,000
Construction	\$0	\$0	\$0	\$0	\$0	\$3,375,000
Finance Charges	\$0	\$0	\$0	\$0	\$0	\$61,125
Engineering Charges	\$0	\$0	\$0	\$0	\$0	\$75,388
Arts	\$0	\$0	\$0	\$0	\$0	\$33,750
Contingency	\$0	\$0	\$0	\$0	\$0	\$611,250
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,856,513</b>

**Operating Description:**

Supplies include two activated carbon replacement cycles for the odor control system at \$5,000 each in three year cycles. Utilities will increase by \$2,500 per year due to pump capacity increase.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$0	\$0	\$0	\$0	\$0	\$10,300
Utilities	\$0	\$0	\$0	\$0	\$0	\$10,300
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$20,600</b>

**Project:** 63020 - Security Enhance Wastewtr Ops (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Add security enhancements to the water reclamation facilities, the various effluent recharge facilities and the various sewer lift stations to achieve compliance with pending regulations which will be set in place by the Federal Homeland Security in the near future.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$100,000	\$0	\$0
Construction	\$0	\$0	\$0	\$2,525,000	\$3,500,000	\$0
Finance Charges	\$0	\$0	\$0	\$40,000	\$52,500	\$0
Engineering Charges	\$0	\$0	\$0	\$39,643	\$52,857	\$0
Arts	\$0	\$0	\$0	\$25,250	\$35,000	\$0
Contingency	\$0	\$0	\$0	\$272,989	\$364,036	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,002,882</b>	<b>\$4,004,393</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63023 - City Wide Sewer Odor Control (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This project will add permanent hydrogen peroxide chemical dosing stations to various sewer lines for odor control and control of hydrogen sulfide gas.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$100,000	\$0
Construction	\$0	\$0	\$0	\$0	\$575,000	\$975,000
Engineering Charges	\$0	\$0	\$0	\$0	\$18,563	\$26,813
Arts	\$0	\$0	\$0	\$0	\$5,750	\$9,750
Contingency	\$0	\$0	\$0	\$0	\$69,931	\$101,156
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$769,244</b>	<b>\$1,112,719</b>

**Operating Description:**

No additional O and M is needed.

**Project:** T3613\* - GL03 Meter Station Relocation (I)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

The existing Meter Station GL03 is located within the 99th Avenue Alignment. This project will include GL03 meter station relocation to the existing influent pump station site located on the northeast corner of Camelback Road and 99th Avenue. The project will also upgrade the meter station to meet the Sub-Regional Operating Group (SROG) standards.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$250,272	\$255,466	\$0	\$0
Construction	\$0	\$0	\$0	\$1,564,875	\$0	\$0
Finance Charges	\$0	\$0	\$3,950	\$28,701	\$0	\$0
Engineering Charges	\$0	\$0	\$6,648	\$48,352	\$0	\$0
Arts	\$0	\$0	\$0	\$15,649	\$0	\$0
Contingency	\$0	\$0	\$39,131	\$286,956	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,001</b>	<b>\$2,199,999</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 63003 - 99th Ave Interceptor Line (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

The Sewer Condition Assessment Study conducted by Project Engineering Consultants in 2005 recommended that the 99th Avenue sewer line be repaired or rehabilitated. This project will include rehabilitation of Glendale's portion of the 99th Avenue sewer line; Glendale currently owns 70% of the 99th Avenue Sewer Line. Pipe lining will be replaced and the corroded manhole structures will be rehabilitated.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Finance Charges	\$10,500	\$10,500	\$30,000	\$30,000	\$30,000	\$55,500
Miscellaneous/Other	\$700,000	\$700,000	\$2,000,000	\$2,000,000	\$2,000,000	\$3,700,000
<b>TOTAL</b>	<b>\$710,500</b>	<b>\$710,500</b>	<b>\$2,030,000</b>	<b>\$2,030,000</b>	<b>\$2,030,000</b>	<b>\$3,755,500</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63006 - Arrowhead Sewer Lines (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The replacement or rehabilitation of various wastewater collection lines in the Arrowhead Ranch area will improve sewer flow conditions and reduce sewer odors. This work was identified in a report completed by the consulting firm, Damon Williams and Associates. The work will be done in phases.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$350,000	\$0
Construction	\$0	\$0	\$0	\$0	\$1,150,000	\$1,770,000
Finance Charges	\$0	\$0	\$0	\$0	\$24,000	\$30,000
Engineering Charges	\$0	\$0	\$0	\$0	\$27,750	\$32,745
Arts	\$0	\$0	\$0	\$0	\$11,500	\$17,700
Contingency	\$0	\$0	\$0	\$0	\$156,325	\$185,045
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,719,575</b>	<b>\$2,035,490</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 63013 - 67th Ave. Lift Station (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The material condition of this Sewage Lift Station (SLS) has deteriorated and requires equipment upgrades in order to assure system remains fully functional and does not violate regulations. The station is essential to satisfy Capacity Management Operation and Maintenance (CMOM).

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
FY 2011 Carryover	\$598,436	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$598,436</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

Increase in power costs for an odor control system will require additional funding. However, the annual maintenance costs will not experience an increase (except inflation) until 2011 due to the new construction warranty and the new hours for the equipment. Equipment maintenance includes replacement of odor control media and service to pumps and associated valves. Cost is based on historical data. New O and M will be absorbed by department.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Utilities	\$5,000	\$5,150	\$5,305	\$5,464	\$5,628	\$30,774
<b>TOTAL</b>	<b>\$5,000</b>	<b>\$5,150</b>	<b>\$5,305</b>	<b>\$5,464</b>	<b>\$5,628</b>	<b>\$30,774</b>

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63016 - Sewer Line Replacement (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

Replacement and/or rehabilitation of existing sanitary sewer lines and manholes as identified by the Sewer Evaluation Study prepared by HDR Engineers and to be completed by Camp, Dresser and McKee (CDM) Engineers. Projects will be developed as funds are available.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$300,000	\$0	\$0	\$0	\$0	\$1,000,000
Construction	\$1,300,000	\$2,800,000	\$2,800,000	\$2,900,000	\$2,900,000	\$13,000,000
Finance Charges	\$30,000	\$42,000	\$42,000	\$45,000	\$45,000	\$225,000
Engineering Charges	\$7,230	\$12,652	\$12,652	\$13,104	\$13,104	\$63,259
Arts	\$13,000	\$28,000	\$28,000	\$29,000	\$29,000	\$130,000
Contingency	\$247,535	\$432,398	\$432,398	\$448,066	\$448,066	\$2,162,739
<b>Sub-Total New Funding</b>	<b>\$1,897,765</b>	<b>\$3,315,050</b>	<b>\$3,315,050</b>	<b>\$3,435,170</b>	<b>\$3,435,170</b>	<b>\$16,580,998</b>
<b>FY 2011 Carryover</b>	<b>\$3,862,539</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL</b>	<b>\$5,760,304</b>	<b>\$3,315,050</b>	<b>\$3,315,050</b>	<b>\$3,435,170</b>	<b>\$3,435,170</b>	<b>\$16,580,998</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 63018 - Camelback Swr Rehab (R)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

This project will include sewer and manhole rehabilitation or replacement in the area of Camelback Road and 75th Avenue. The 75th Avenue and Camelback Road Sewer and Manhole Rehabilitation Study conducted by CDM in 2008 identified the sewer segments and manholes that need to be rehabilitated or replaced.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Construction	\$810,000	\$0	\$0	\$0	\$0	\$0
Finance Charges	\$11,865	\$0	\$0	\$0	\$0	\$0
Engineering Charges	\$39,600	\$0	\$0	\$0	\$0	\$0
Arts	\$8,100	\$0	\$0	\$0	\$0	\$0
Contingency	\$130,435	\$0	\$0	\$0	\$0	\$0
<b>Sub-Total New Funding</b>	<b>\$1,000,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>FY 2011 Carryover</b>	<b>\$15,619</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL</b>	<b>\$1,015,619</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63021 - Sweetwater & 55th Ave SLS (R)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

The material condition of the sewage lift station (SLS) at Sweetwater and 55th Avenue has deteriorated and requires equipment upgrades in order to assure system reliability, adequate capacity and public safety. The station is essential to satisfy capacity management operation and maintenance.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$416,900	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$1,236,040	\$0	\$0	\$0	\$0
Finance Charges	\$6,186	\$22,000	\$0	\$0	\$0	\$0
Engineering Charges	\$11,465	\$33,991	\$0	\$0	\$0	\$0
Arts	\$0	\$12,360	\$0	\$0	\$0	\$0
Contingency	\$65,183	\$195,659	\$0	\$0	\$0	\$0
<b>Sub-Total New Funding</b>	<b>\$499,734</b>	<b>\$1,500,050</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>FY 2011 Carryover</b>	<b>\$72,102</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL</b>	<b>\$571,836</b>	<b>\$1,500,050</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

**Project:** 63000 - 67th-115th, Northern-C'Back (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Installation of new sewer lines to relieve existing sewer mains as identified by Hennings, Durham, and Richardson (HDR) Sewer Depth Study of December 2000. These projects will provide deeper outfall sewers for development in the area and will relieve or replace existing sewers that have inadequate slope.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$0	\$0	\$0	\$1,200,000
Construction	\$0	\$0	\$0	\$0	\$0	\$7,000,000
Finance Charges	\$0	\$0	\$0	\$0	\$0	\$123,000
Engineering Charges	\$0	\$0	\$0	\$0	\$0	\$92,500
Arts	\$0	\$0	\$0	\$0	\$0	\$70,000
Contingency	\$0	\$0	\$0	\$0	\$0	\$1,230,000
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$9,715,500</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63008 - Sewers for Areas on Septic Sys (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

This project will include Installation of sewers in the areas currently on septic systems. This is a citizen driven program in which citizens must request that their area (subdivision, neighborhood, street, etc.) be served by the city sewer. As of September 2007, five projects had been funded through this program. No other areas have officially met the requirements for projects to go forward. The five projects that were funded and are now complete are Cortez Sewer, Hidden Manor, Rancho Del Higo, Orangewood West and Cinnabar.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$50,000	\$0	\$0	\$0	\$0	\$0
Construction	\$142,000	\$200,000	\$210,000	\$365,000	\$365,000	\$725,000
Finance Charges	\$3,000	\$3,000	\$3,100	\$5,400	\$5,400	\$12,000
Engineering Charges	\$5,134	\$5,348	\$5,615	\$9,759	\$9,759	\$19,385
Arts	\$1,420	\$2,000	\$2,100	\$3,650	\$3,650	\$7,250
Contingency	\$30,233	\$31,552	\$33,122	\$57,571	\$57,571	\$114,545
<b>TOTAL</b>	<b>\$231,787</b>	<b>\$241,900</b>	<b>\$253,937</b>	<b>\$441,380</b>	<b>\$441,380</b>	<b>\$878,180</b>

**Operating Description:**

Sewer maintenance required for sewers installed through this program is estimated at approximately \$10,000 per mile of sewer per year. Department will absorb new O and M.

**Operating Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Supplies/Contr	\$10,000	\$20,300	\$30,909	\$41,866	\$43,122	\$360,500
<b>TOTAL</b>	<b>\$10,000</b>	<b>\$20,300</b>	<b>\$30,909</b>	<b>\$41,866</b>	<b>\$43,122</b>	<b>\$360,500</b>

**Project:** 63015 - CMOM Implementation (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The United States Environmental Protection Agency (USEPA) has mandated a new Capacity Management Operations and Maintenance (CMOM) program for the sanitary sewer systems nationwide. The proposed program will assist in protecting the sanitary sewer system. Phase 1 and 2 have been completed. Phase 3 will update the administrative program in FY 2013.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Miscellaneous/Other	\$0	\$0	\$574,000	\$0	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$574,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

Consultants will conduct the GPS survey of the manhole covers. No additional maintenance is expected.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** 63017 - Sewer Line Extension (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

This project will include sewer line extensions at various locations to meet projected demand. These extensions will transfer wastewater from new developments.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$24,100	\$0	\$0	\$0	\$0	\$100,000
Construction	\$230,000	\$270,000	\$200,000	\$340,000	\$337,240	\$725,000
Engineering Charges	\$6,277	\$6,670	\$4,941	\$8,399	\$8,331	\$20,381
Arts	\$2,300	\$2,700	\$2,000	\$3,400	\$3,372	\$7,250
Contingency	\$39,402	\$41,906	\$31,041	\$52,770	\$52,341	\$127,895
<b>TOTAL</b>	<b>\$302,079</b>	<b>\$321,276</b>	<b>\$237,982</b>	<b>\$404,569</b>	<b>\$401,284</b>	<b>\$980,526</b>

**Operating Description:**

No additional O and M is needed at this time.

**Project:** T3610 - Bethany Hme Rd Interceptor (N)

**Funding Source:** Water & Sewer Revenues

**Project Description:**

Installation of an interceptor sewer along the Bethany Home Road alignment from 83rd to 95th Avenue. The interceptor is designed to intercept flows from the existing sewers in 83rd and 91st Avenues that had to be altered due to construction of the Bethany Home Outfall Channel.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$300,000	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$1,490,000	\$1,490,000	\$0
Finance Charges	\$0	\$0	\$0	\$22,000	\$22,000	\$0
Engineering Charges	\$0	\$0	\$5,550	\$27,565	\$27,565	\$0
Arts	\$0	\$0	\$0	\$14,900	\$14,900	\$0
Contingency	\$0	\$0	\$45,833	\$233,170	\$233,170	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$351,383</b>	<b>\$1,787,635</b>	<b>\$1,787,635</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset

## FY 2011-2020 Capital Improvement Plan

### Capital Project Expenses Detail

#### 2420 - Sewer

**Category: Revenue**

**Project:** T3611 - Glendale Ave 93rd-99th Ave (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

Improvements are required in order to handle the additional wastewater flows generated by growth near Loop 101 and Glendale Avenue. Improvements include the design and construction of a parallel relief sewer on Glendale Avenue from 93rd to 99th Avenue. The relief sewer will be constructed in two phases. These proposed improvements were identified in the sewer collection study recently completed by Camp, Dresser, and McKee (CDM).

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$50,000	\$0	\$0	\$0	\$35,000
Construction	\$0	\$395,000	\$0	\$0	\$0	\$280,000
Finance Charges	\$0	\$6,500	\$0	\$0	\$0	\$4,900
Engineering Charges	\$0	\$19,135	\$0	\$0	\$0	\$13,545
Arts	\$0	\$3,950	\$0	\$0	\$0	\$2,800
Contingency	\$0	\$65,000	\$0	\$0	\$0	\$49,000
<b>TOTAL</b>	<b>\$0</b>	<b>\$539,585</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$385,245</b>

**Operating Description:**

No additional O and M is needed.

**Project:** T3612\* - Influent Pump Sta. (RSPS) Imp. (N)

**Funding Source:**

Water & Sewer Revenues

**Project Description:**

The new screening system will improve West Area Water Reclamation Facility operations and reduce the maintenance effort required for the waste activated sludge pumps at the plant. The new screening system will include mechanical bar screens, washer compactor conveyor system with dumpster storage area, a building and odor control system. This project will include an enclosed self cleaning bar screen and ancillary system.

**Capital Costs:**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FYs 16-20
Design	\$0	\$0	\$420,000	\$430,000	\$0	\$0
Construction	\$0	\$0	\$6,819	\$3,404,500	\$0	\$0
Finance Charges	\$0	\$0	\$0	\$60,517	\$0	\$0
Engineering Charges	\$0	\$0	\$7,896	\$70,938	\$0	\$0
Arts	\$0	\$0	\$68	\$34,045	\$0	\$0
Contingency	\$0	\$0	\$65,217	\$600,000	\$0	\$0
<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$4,600,000</b>	<b>\$0</b>	<b>\$0</b>

**Operating Description:**

No additional O and M is needed.

\* New Project

N=New Asset, R=Replacement of Existing Asset, I=Improvement of Existing Asset